SEQUENCES WITHIN

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Starting with two or more generic sequences, there are several ways in which they may be arranged in relation to each other, sometimes forming a word. The sequences may:

1. follow on from each other, as demonstrated in *Sequential Words* (WW2005003).
2. interlock, as described in *Unique Generic Locks* (2007251)
3. occur one within another
4. overlap

In 1, 2 and 3 above, the sequences do not share any letters. In 4, they share one or more letters.

***Sequences Within* investigates category 3.**

The genres of sequences considered are Palindromic (P), Tautonymic (T), Miami (M) and Ladder (L). (the reader is directed to *Miami Words* (2000014) and *Ladder Words* (2002279)).

A particular word may be constructed of (a) two or more sequences of the same genre or (b) sequences of two or more different genres.

Selected examples are offered although, for some of the possible patterns, no examples were found.

Words which are themselves palindromes, tautonyms, Miami or ladders are not included.

Single letters and doubled letters are not included as P or T sequences. The ladder sequences considered are those with 9 letters.

Most of the unreferenced words can be found in the Oxford English Dictionary, Second Edition.

Other references: *aig* = Agricultural Insects of Ghana, Ghana Univ. Press, 1966; *cham* = Chambers Dictionary; *daw* = Dictionary of Archaic Words by J.O. Halliwell, Bracken Books, 1989; *dfpf* = A Dictionary of the Flowering Plants and Ferns by J.C. Willis, CUP 1966; *dne* = A Dictionary of New English 1963-72 by Barnhart, Steinmetz and Barnhart, Longmans, 1973; *hodge* = Handbook of American Indians ed. F.W. Hodge, 1907; *nz* = Nomenclator Zoologicus; *ospd* = Official Scrabble Players Dictionary; *sted* = Stedman's Medical Dictionary; *Web2* = Webster's Second Edition. Locations are taken from the Unites States Board on Geographic names.

PALINDROMIC SEQUENCES WITHIN PALINDROMIC SEQUENCES

Asterisked* letter patterns offer a choice of embedded P sequences. These patterns are covered in *Choice of Embedded Palindromes* at the end of this P in P section.

Surrounding Palindromic Sequence of 3 Letters

There are 2 possible positions for a P sequence, whatever its length, when it is embedded in a P triplet. The words have one of the two letter patterns (a)1.P.21 (b)12.P.1

3 in 3

(a) ACACIA, CEDELC, DEPEND, EATAGE, GIVING, HABATH, ITZTLI (*Web2*), KEBECK, LILIAL, MIRIAM (*cham*), NEMEAN, PEWEEP, REGEAR, SALADS, STATUS, SEVERS, TUMULT, YERELY

(b) AURORA, BOABAB, CLINIC, CRITIC, DUELED, ENGAGE, ESTATE, GANING, HACHCH, KRETEK, LYOSOL (a synthetic resin concentrate), MOUSUM, OPINIO, PHILIP, REELER, SCENES, SWEDES, TENANT, TWILIT, YEANAY

4 in 3

(a) DIZZIED, GIGGING, HILLISH, KILLICK, LYTTYLL, MILLIUM, RIPPIER, SELLERS, SETTERS, TARRANT

(b) DWELLED, ESTAATE, GRIMMIG (*cham*), NHESSEN, PHILLIP, RIEGGER (Wallingford Riegger was a major figure in the world of American classical music), STEPPES, TRESSET

5 in 3

(a) ANODONTA (*Web2*), DAWNWARD, EPANAPHE (*aig*), HOOROOSH, SELFLESS, SYNONYMS

(b) ACROPORA (*Web2*), ELNERENE, GENITING, MAURORUM (*cham*), PARACARP, SIGNINGS, SCREWERS, TENEMENT

6 in 3

(a) SNIPPINGS, SNIFFINGS, STACCATOS, STANNATES

(b) SHREDDERS, STRESSERS, THROWWORT

7 in 3

(a) MIRIPIRIUM (miripirium chloride is a chemical)

(b) SHILAGALIS (a populated place in Lithuania)

9 in 3

(a) KINNIKINNICK, SENSUOUSNESS

Surrounding Palindromic Sequence of 4 Letters

There are 3 possible positions for a P sequence embedded in a P quadruplet. The words have one of the letter patterns (a) 1.P.221 (b)12. P. 21 (a palindrome) (c)122. P. 1

3 in 4

(a) AEMETTA (*cham*)

(c) ACCIDIA, ENNIMIE, ENNYMYE, OFFICIO (*cham*), SAANENS - swiss goats (*cham*)

4 in 4

(a) SETTELLS (settles), TREE-ROOT

5 in 4

(a) SENTNELLS

Surrounding Palindromic Sequence of 5 Letters

There are 4 possible positions for a P sequence embedded in a P quintuplet. The words have one of the letter patterns (a)1.P.2321* (b)12. P.321 (c)123.P.21 (d)1232. P.1*

3 in 5

(b) ATALANTA (*cham*), DECOCTED, ELIGIBLE, LIPOPHIL (*sted*), MURARIUM (Theridion murarium is a cobweb weaver spider - from the *Nearctic Spider Database*), NOTATION, REMEMBER, SINENSIS (*cham*)

(c) ALCABALA see alcavala (an early Spanish property tax), DENTATED, ENDOCONE (*Web2*), LAPIDIAL, MERIDIEM (*cham*), NAMIBIAN, RESTATER, SUDOROUS

4 in 5

(b) RETOOTHER (*Web2*), STAGGARTS (stags in their 4th year) see staggard, 1847 citation

(c) NONILLION (British 10^{54})

5 in 5

(b) DERESERVED,

(c) ENKERGRENE (dark green) see enker, SENSITISES see sensitize

Surrounding Palindromic Sequence of 6 Letters

There are 5 possible positions for a P sequence embedded in a P sextuplet. The words have one of the letter patterns (a)1.P.23321* (b)12. P. 3321 (c)123. P.321 (palindrome) (d)1233. P. 21 (e) 12332.P.1*

3 in 6

(b) SEERESSES

(d) SENNEKEES (*hodge*)

Surrounding Palindromic Sequence of 7 Letters

There are 6 possible positions for a P sequence embedded in a P septuplet.

The words have one of the letter patterns

(a)1.P.234321* (b)12.P.34321* (c)123.P.4321 (see *3 in 3 in 4* at end of article) (d)1234.P.321

(e)12343.P.21* (f)123432.P.1*

3 in 7

(d) LACTIFICAL, METASYSTEM

Choice of Embedded Palindromic Sequences*

Up to this point, all the sequences have been unique. However, some P in P words offer a choice of embedded P sequences:

(i) P sequences of same length:

3 in 5 (a)1.P.2321 (b)1232. P.1

(a)	(b)	(a)	(b)	(a)	(b)
CONOIDIC	CONOIDIC	DESEEDED	DESEEDED	LIPIODOL	LIPIODOL
NENEEVEN (*daw*)	NENEEVEN	REDEEMER	REDEEMER	SEVERERS	SEVERERS
TYNYNANT	TYNYNANT				

3 in7 (a)12.P.34321 (b)12343.P.21

(a)	(b)
REVIVIFIER	REVIVIFIER

(ii) P sequences of different lengths

3 in 7 and ***5 in 5***	SENECIOICS (1.P.234321)	SENECIOICS (1232.P.1)
5 in 5 and ***3 in 7***	STIPITURUS (1.P.2321)	STIPITURUS (123432.P.1)
3 in 6 and ***4 in 5***	MUQUADDAM (1.P.23321)	MUQUADDAM (1232.P.1)
4 in 5 and ***3 in 6***	SILLIBUBS (1.P.2321)	SILLIBUBS (123324541)
	DISSIERED	DISSIERED see desire v.
7 in 3 and ***5 in 5***	MALAYALAAM (1.P.21)	MALAYALAAM (*cham*) (12.P.221)
6 in 6 and ***9 in 3***	SPINNIPINNIS (1.P.23321)	SPINNIPINNIS (12.P.1)

TAUTONYMIC SEQUENCE WITHIN TAUTONYMIC SEQUENCE

Surrounding Tautonymic Sequence of 4 Letters

There are 3 possible positions for a T sequence embedded in a 4-letter T sequence. The words have one of the letter patterns (a)1.T.212 (b)12.T.12 (c)121.T.2

4 in 4

(a) MONONEME (an unpaired helix of nucleic acid as occurs in a chromatid), MONONYMY

(b) MEGAGAME (*dne*), MESOSOME, VETITIVE

(c) BABAMAMA (the Babamama range is listed in Stieler's 19th century Atlas - WW 92010), SASARARA (note that these two words are also T-T sequential words with the letter pattern 1212.3232)

MIAMI SEQUENCE WITHIN MIAMI SEQUENCE

There are 4 possible positions for a M sequence embedded in another M sequence.
The words have one of the letter patterns (a)1.M.2312 (b)12.M.312 (c)123.M.12 (d)1231.M.2

(a) NAGNAGGING, NONCONTENT

(b) ANASTASIAN (*Web2*)

(c) ISOOSMOSIS (*Web2*)

(d) REGRATIATE

PALINDROMIC SEQUENCE WITHIN TAUTONYMIC SEQUENCE

There are 3 possible positions for a P sequence embedded in a 4-letter T sequence. The words have one of the letter patterns (a)1.P 212 (b)12.P.12 (c)121.P.2

3 in 4

(a) RIVIÈRE (*cham*), TIMISTS

(b) ANIDIAN (*Web2*), DEICIDE, EDIFIED, ESTATES, ICHTHIC (*cham*), MYOTOMY, REAWARE (*Web2*), SHABASH, TENENTE

(c) DIDAKAI, EYE-BABY, ILIACAL, JAJINIA (*nz*), NONNY-NO, TETHTHE, USURERS

4 in 4 (these particular words are pair isograms, words with 2 of each different letter)

(a) MILLIEME

(b) SHIPPISH, TEAM-MATE

5 in 4

ISIDIOIDS

There are 5 possible positions for a P sequence embedded in a 6-letter T sequence. The words have one of the letter patterns (a)1.P 23123 (b)12.P.3123 (c)123.P.123 (d)1231.P.23 (e)12312.P.3

3 in 6

(a) NEREKONKO (a mountain in Guinea)

(b) GEISINGEN (a town in Germany)

(c) MESOSOMES, OVERDROVE, REDEFERED (*Web2*)

(d) CAECILIAE (*Web2*), CONCISION, TESTIFIES

(e) JINJIAWAN (a populated place in China)

5 in 6

(d) CONCITATION

PALINDROMIC SEQUENCE WITHIN MIAMI SEQUENCE

There are 4 possible positions for a P sequence embedded in a 5-letter M sequence. The words have one of the letter patterns: (a)1.P.2312 (b) 12.P.312 (c) 123.P.12 (d) 1231.P.2

(a) AUTUNIAN (an inhabitant of Autun, a populated place in France), SABBATIST, SLEPELESSE

(b) HEADACHE, STILLIEST (*ospd*), SEERPREESE, NECORROCANE (a populated place in Mozambique),

(c) STEEPEST, SHRILLISH, TERRE-VERTE, DECIMEMIDE (chemical used in pharmacy) TETRAPARTITE (*Web2*)

(d) CAECILIA (a kind of lizard), INDIANAN, PREPOSSESSOR

PALINDROMIC SEQUENCE WITHIN LADDER SEQUENCE

There are 8 possible positions for a P sequence embedded in a Ladder sequence. Here are 4 of them:

1.P.23143543: SONORESCENCE, 1.P.12312412: ANANASTASIAS (also a P - L sequential word 121.213413513)

123.P.143145: ANTIDIASTASE (*Web2*)

12314.P.3145 KECKLEMECKLE

123124.P.125 INFINITATING

TAUTONYMIC SEQUENCE WITHIN PALINDROMIC SEQUENCE

There are 2 possible positions for a T sequence embedded in a P triplet. The words have one of the letter patterns (a)1.T.21 (b)12.T.1

4 in 3

(a) ACUCULA (*cham*), MONONYM, RIBIBOR

(b) BUTATAB (a medication), DRYEYED, EPININE (*Web2*), GAINING

6 in 3

(a) PASHASHIP (*Web2*), STINTINGS

(b) SWINGINGS, STINGINGS, ARATIATIA (also a P-T sequential word 121. 341341)

8 in 3

(a) DENIZENIZED (*Web2*) or (b) DENIZENIZED,

(b) GRATINATING

10 in 3

(a) STENOSTENOSIS (also a T-P sequential word 1234512345.161)

8 in 5

(a) EMMA-EMMA-ESSES (see emma, 1919 citation)

There are 3 possible positions for a T sequence embedded in a P quadruplet. The words have one of the letter patterns (a) 1.T.221 (b)12.T.21 (c) 122.T.1

4 in 4

(a) ANANASSA (*dfpf*) also a T-P sequential word 1212.1331

(b) NOTITION

(c) AKKININA (a populated place in Russia)

There are 4 possible positions for a T sequence embedded in a P quintuplet. The words have one of the letter patterns (a) 1.T.2321 (b) 12.T.321 (c) 123.T.21 (d) 1232.T.1

4 in 5

(a) NUKUKATAN (a stream in Malaysia)
(b) NEUMUMMEN (a populated place in Germany)
(c) SURUCUCUS (bushmaster snakes - *cham*)
(d) EUQUINE (a chemical)

There are 5 possible positions for a T sequence embedded in a P sextuplet. The words have one of the letter patterns (a) 1.T.23321 (b) 12.T.3321 (c) 123.T.321 (d) 1233.T.21 (e) 12332.T.1

4 in 6

(d) TELLURURET
(d) SASSARARAS or (e) SASSARARAS

TAUTONYMIC SEQUENCE WITHIN MIAMI SEQUENCE

There are 4 possible positions for a T sequence embedded in a M sequence. The words have one of the letter patterns: (a)1.T 2312 (b) 12.T. 312 (c) 123.T. 12 (d) 1231.T.2

T = 4

(a) TOUOUAITA (Douar Tououaita is a populated place in Algeria)
(b) LAKHKHOLA (a populated place in Bangladesh)
(c) DAYANANDA (a name – see Samaj,1958 citation), MEATOTOME
(d) TANTARARA (see tantara)

T = 6

(a) AWGAWGAWRAW or (b) AWGAWGAWRAW (a populated place in Nigeria)
(c) ORHOKPOKPOR or (d) ORHOKPOKPOR (a populated place in Nigeria)
(d) ZENZICUBICUBE

T = 8

(a) EMMA-EMMA-ESSES (see emma, 1919 citation) See also 8T in 5P earlier.

TAUTONYMIC SEQUENCE WITHIN LADDER SEQUENCE

There are 8 possible positions for a T sequence embedded in a M sequence. In this one, T = 4.

1234.T.23523 KOURABABOUGOU (a populated place in Mali)

MIAMI SEQUENCE WITHIN PALINDROMIC SEQUENCE

There are 2 possible positions for a M sequence embedded in a P triplet.
The words have one of the letter patterns (a) 1.M.21 (b) 12.M.1

(a) CERBERIC, SATIATES
(b) DISEASED, GLINTING, GRINDING, SWERVERS, SINGINGS

There are 3 possible positions for a M sequence embedded in a P quadruplet.
The words have one of the letter patterns (a)1.M.221 (b)12.M.21 (c) 122.M.1

(a) KARKAROOK (a railroad station in Australia)
(b) ENTERTENE, SEATMATES
(c) EFFATUATE, ROOT-EATER

There are 4 possible positions for a M sequence embedded in a P quintuplet.
The words have one of the letter patterns (a)1.M.2321 (b)12.M.321 (c)123.M.21 (d)1232.M1

(a) CANAANITIC, GUNRUNNING (*cham*), DISVISERED (see disvisor v.)

There are 5 possible positions for a M sequence embedded in a P sextuplet. The words have one of the letter patterns (a)1.M23321 (b)12.M.3321 (c)123.M.321 (d)1233.M.21 (e)12332.M.1
(b) DEREPRESSED
The phrase TAKE A CRACK AT is made of a M sequence embedded in a P septuplet.

There are 6 possible positions for a M sequence embedded in a P septuplet. The words have one of the letter patterns (a)1.M.234321 (b)12.M.34321 (c)123.M. 4321 (d)1234.M.321 (e)12343.M.21 (f)123432.M.1

(a) QELOELAPAPAO (a populated place in Indonesia)

MIAMI SEQUENCE WITHIN TAUTONYMIC SEQUENCE

T = 4

12.M.12 INTERTEIN, RNRGRRGRN (a Yurok Indian place name WW74243)

MIAMI SEQUENCE WITHIN LADDER SEQUENCE

This demonstrates one of the 8 possible positions for a M sequence in a L sequence:
1.M. 23423523 INTENTOUBOUGOU (a populated place in Mali)

LADDER SEQUENCE WITHIN PALINDROMIC SEQUENCE

P = 3

12.L.1 ALOUGOUBOUNA (a point in Gabon)

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So far, we have concerned ourselves with words consisting of 2 generic sequences, one within the other. However, it is possible to discover a few words which demonstrate 3 sequences - a sequence within a sequence within a sequence. In such words, the sequences may (a) all belong to the same genre (b) consist of 2 sequences of one genre and a third sequence of a different genre or (c) all belong to different genres.

(a) sequences all belonging to the same genre

3 in 3 in 4 (P in P in P)
REHOBOTHER, TRACK-CHART
SOOGIEINGS
Phrase: SLACK COALS

(b) 2 + 1 sequences

3 in 3 in 5 ISEPIPTESIS (P in P in M)
5 in 5 in 3 SPEAR-CARRIERS (M in M in P)
4 in 5 in 3 *Phrase:* AFTERNOON TEA (P in M in P)
5 in 3 in 4 *Phrases:* FRINGING REEF, STEEL HELMETS (both M in P in P)

(c) sequences all belonging to different genres

3 in 5 in 4 NIMINI-PIMINI (P in M in T)

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Finally, here is a generic schizophrenic which can't decide what it is!
Is it a T in T – DIKWAKWADI?
Or is it a M in M?
If the latter, it still has the choice between DIKWAKWADI and DIKWAKWADI!
(Dikwakwadi is a scalp conditon - see whitehead, B 4 b, 1922 citation)